UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/507,146	02/18/00	NEWMAN W	L0559/7001(E

HM12/0410

ELIZABETH R. PLUMER
WOLF GREENFIELD & SACKS PC
FEDERAL RESERVE PLAZA
600 ATLANTIC AVENUE
BOSTON MA 02210

EXAMINER	
CANELLA,K	
ART UNIT	**PAPER NUMBER**
1642	10

DATE MAILED: 04/10/01

Please find below and/or attached an Office communication concerning this application or pr ceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/507,146	Applicant(s) Newman et al
	Examiner Kar n Canella	Group Art Unit 1642

☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3 months* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1, 6, 7, 10, 11, 15, 20-24, 27, 34, and 41-58* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1, 6, 7, 10, 11, 15, 20-24, 27, 34, and 41-58* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

1. Acknowledgment is made of applicants election of Group I drawn to compositions comprising single biotin conjugates complexed to single anti-biotin antibodies. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 31-33, 35 and 37-40 have been canceled. Claims 41-58 have been added. Claims 1, 6, 7, 10, 11, 15, 20-24, 27, 34 and 41-58 are examined on the merits.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 6, 7, 10, 11, 15, 20-24, 34 and 41-55 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a complex comprising an anti-biotin antibody and biotinylated eosin and a complex comprising an anti-biotin antibody and biotinylated ITAC, does not reasonably provide enablement for complexes consisting of any other biotinylated conjugate. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Claims 1, 6, 7, 10, 11, 15, 20-24, 34 and 41-55 are broadly drawn to compositions comprising a biotinylated pharmaceutical agent complexed to an anti-biotin antibody. The specification describes anti-biotin antibodies complexed to biotinylated eotaxin or biotinylated ITAC used in experimental protocols to demonstrate the inhibition of recruitment of eosinophils or lymphocytes to the peritoneum. The specification discusses at length the importance of raising antibodies to the biotinylated chemokine and screening the resulting

antibodies for an anti-biotin antibodies of relatively low affinity for biotin (1-10 nM), allowing for the dissociation of the antibody from the complex in vivo. The specification further suggests on page 38, lines 28-30, "To make full use of this invention, it is desirable to identify antibodies that have varying degrees of affinity for free biotin to tailor the complexes to the individual patients and clinical disease states". However, the specification does not teach a use for agonistic or antagonistic complexes comprising any other chemokine or ligand that would bind to a G-protein coupled receptor. One of skill in the art would not know how to use the broadly claimed chemokine or G-protein coupled ligands in biotinylated complexes as the specification does not teach or demonstrate any clinical disease states that could be ameliorated by said complexes. Further, the specification discusses the potential use of an antibody with dual specificity for biotin and a tumor antigen, or biotin and a viral antigen, complexed to a biotinylated chemokine to recruit Th1 or Th2 immune cells to the tumor vicinity. However, the specification is completely silent with regard to teachings of the appropriate affinity of the dual specificity antibody with regard to biotin and the tumor antigen or viral. If the low affinity (1-10 nM) of the antibody to biotin is necessary to release the complex within 15 minutes of injection (pg. 6, lines 25-29), this would not necessarily be long enough to effectively target the complex to the tumor mass or location of viral infection. One of skill in the art would be subject to undue experimentation in order to determine optimum binding affinities for both biotin and the tumor antigens as recited on pg. 7, lines 7-23. Furthermore, the specification provides no teachings on specific chemokines which would differentially recruit Th1 or Th2 CD+4 T-cells. In view of the unpredictability of the art and the lack of guidance in the specification one of skill in the art would be subject to undue experimentation in order to make and use the broadly claimed complexes.

5. Claims 1, 6, 7, 10, 11, 15, 20-24, 34 and 41-55 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The written description sets forth anti-biotin antibodies complexed to biotinylated eotaxin or biotinylated ITAC and is not

commensurate in scope with the claims drawn to compositions comprising a biotinylated pharmaceutical agent complexed to an anti-biotin antibodies.

Vas-Cath Inc. V. Mahurkar, 19 USPQ2d 1111, clearly states that applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the written description inquiry, whatever is now claimed. (See page 1117). The specification does not clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed. (See Vas-Cath at page 1116).

Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 USC 112 is severable from its enablement provision (see page 115). For the reasons given in paragraph 4 above, the specification is not enabling for the broadly claimed pharmaceutical agents Furthermore, no disclosure, beyond the mere mentioning of the inclusion of all chemokines and pharmaceutical agents is made in the specification. This is insufficient to support the generic claims as provided by the Interim Written Description Guidelines published in the June 15, 1998 Federal Register at Volume 63, Number 114, pages 32639-32645.

Therefore only an anti-biotin antibody complexed to biotinylated eotaxin and a anti-biotin antibody complexed to biotinylated ITAC, but not the full breadth of the claims meets the written description provision of 35 USC 112, first paragraph.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

7. Claims 27 and 56-58 are rejected under 35 U.S.C. 102(e) as being anticipated by McCarty (USP 5,929,066). Claim 27 is drawn to a composition comprising a therapeutically effective amount of a biotin and a pharmaceutically acceptable carrier. Dependent claims 56-58 embody therapeutically effective amounts of biotin from 100 microgram to 100 mg, 100 microgram to 10 mg and 1 mg to 10 mg. McCarty et al disclose a pharmaceutical composition comprising 25 micrograms to 200 mg of biotin.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen Canella whose telephone number is (703) 308-8362. The examiner can normally be reached on Monday through Friday from 8:30 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Caputa, can be reached on (703) 308-3995. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

GEETHA P. BANSAL
PRIMARY EXAMINER

Karen A. Canella, Ph.D.
Patent Examiner, Group 1642
April 6, 2001